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STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

JENNIFER M. GRANHOLM
GOVERNOR

DEQ

STEVEN E. CHESTER
DIRECTOR

January 14, 2003

Mr. Andrew Smits, P.E.
Inland Seas Engineering, Inc.
1755 Barlow Street
P.O. Box 6820
Traverse City, MI 49696–6820

Dear Mr. Smits:

Your October 14, 2002 Hydrogeologic Study Work Plan prepared for Williamsburg Receiving and Storage, LLC (WRS) pursuant to Consent Order No. 31–07–02 was received in this office on December 12, 2002. The purpose of this letter is to provide you with our review comments of the Work Plan. Also included in this letter are additional hydrogeologic study requirements related to the request for issuance of a permit for the proposed groundwater discharge from WRS. Listed below are the review comments.

Hydrogeologic Study Target Areas

Field work was conducted during July 2002 at the former spray irrigation area and September 2002 at the former brine pit area located on the northwest portion of the site. The investigative assessment activities at these two locations were to determine whether groundwater has been impacted by the first quarter 2002 discharge at the irrigation field or by leaking or spillage from the brine pit area. The field work was based on the June 26, 2002 Work Plan which was submitted to the Cadillac District Office, Water Division (WD) staff for review. The Work Plan was never approved by WD staff and as a result, the field activities were conducted without any assurance that the methods used to assess the two sites would be considered appropriate.

Former Spray irrigation Area

In response to the consent order requirement that the hydrogeologic study "determine the impact of brine pits and wastewater discharges on groundwater...," the former spray irrigation area was investigated by Inland Seas Engineering, Inc. (ISE), during July of 2002. The scope of the investigation was limited to determining if soils beneath the irrigation field had been impacted by the wastewater discharge during the first quarter of 2002. The assumption made by ISE is that if the soils are not impacted, then groundwater is not impacted. ISE calculated the maximum theoretical infiltration depth of the wastewater using an algorithm derived from the Environmental Protection Agency (EPA) guidance document entitled, "Superfund Exposure Assessment Manual" (EPA/540/1-88/001). Soil samples were then obtained from various depths beneath the

two former brine pit areas and two existing brine pit areas (Series 100, 200, 300 and 400 areas). There also is proposed one background monitor well. It is proposed to sample only the downgradient monitor wells and the background monitor well for chloride. Two rounds of samples are proposed; based on the results, additional samples may be obtained.

Our recommendation is that all monitor wells, including the upgradient wells, shall be sampled for chloride. This will provide useful information to compare with the downgradient monitor wells.

Storage Lagoon

Monitor wells must be installed upgradient as well as downgradient of the lagoon to verify the integrity of the lagoon liner. Groundwater monitoring at the storage lagoon area will be part of the groundwater monitoring program should a new discharge permit be issued for WRS.

Please respond to these suggested Work Plan modifications by February 14, 2003. Feel free to call me at 517-335-3380 should you have any questions or comments regarding this matter.

Sincerely,

Douglas D. Thompson

Douglas D. Thompson
Permits and Technical Support Unit
Groundwater Section
Water Division

cc: Mr. Jim Janiczek, WD
Ms. Janice Heuer, WD
Mr. Tom Weston, WD